To: Lauren Praesel [Lauren_Praesel@abtassoc.com]
Cc: Eloise Castillo [Eloise_Castillo@abtassoc.com]; ina Laidlaw/MO/R8/USEPA/US@EPA[]
From: "Suplee, Mike"
Sent: Mon 8/22/2011 3:49:24 PM
Subject: RE: Private facilities review
Laurel.xls
Billings.xls
www.abtassociates.com

Hi Everyone;

Much of the information you need to carry out fairly accurate estimates of effluent limits is found on the 2nd tab (SupleeReview) of the spreadsheet I sent last week (IndustrialFacilities_reviewed.xlsx). There, you will see a column with the discharge quality for whatever nutrients they monitored (often these are not TN or TP, but we can make the safe assumption that if they exceed the solubles they will exceed totals). A few columns over (column AG) in the same tab is 'Assumed Nutrient Standard of Receiving Water'. Those are the nutrient standards.

Now, for dischargers to small streams (Conoco, W. Sugar, REC) I assumed no dilution is available and the standards need be met end-of-pipe. All costs for upgrades must be judged relative to that.

For dischargers to the larger rivers, you are missing some receiving water data at the low flow (we use seasonal 14Q10 for nutrients) which you will need to calculate dillution. I provide these below (or estimates thereof):

Yellowstone River at Sidney: Seasonal 14Q10 (July-Oct) = 3,550 CFS

Yellowstone River, Billings: Seasonal 14Q10 (July-Oct) = 2,000 cfs (75 seasons of record)

Yellowstone River, Laurel (estimated): 1,850 cfs (less CFYR and Red Lodge Creek)

Missouri River, Holcim Trident (Toston gage): 14Q10 (July-Oct) 1,270 cfs

For the Yellowstone River at Sidney, the ambient nutrient concentrations at 14Q10 low flow are ~0.045 ug TP/L and ~0.43 mg TN/L. With these data, and the ambient Yellowstone River nutrient data for Billings and Laurel in the attached spreadsheets (to carry out the calculations for Exxon Mobile and Cenex Harvest, respectively), you should have all the basic info needed to estimate the degree of upgrade required. You may come up with somewhat different conclusions than I did for the large-river dischargers, I did a very quick estimation.

I will be in the field all week and will not be able to see emails. Tina should be able to help with additional questions.

Mike

From: Lauren Praesel [mailto:Lauren_Praesel@abtassoc.com]
Sent: Friday, August 19, 2011 8:24 AM
To: Suplee, Mike
Cc: Eloise Castillo; Tina Laidlaw (Laidlaw.Tina@epamail.epa.gov)
Subject: RE: Private facilities review

Mike,

Is MDEQ going to estimate actual effluent limits for each facility? If not, is there any way we can get more detailed data on available dilution so that we can project effluent limits for each facility?

For example, in the spreadsheet the data indicate that Holcim Trident - Cement Manufacture is discharging at 2.5 mg/L to 10.10 mg/L TN and has an instream criterion of 0.8 mg/L. To comply with effluent limits based on this criterion the facility would need dilution of approximately 13:1 based on the maximum value (using a simple mixing zone equation). It is not clear if 13:1 meets the definition of "probably" having "substantial" dilution. Also, the facility's existing permit indicates that it does not have a mixing zone for its current discharge.

We would also need to project effluent limits to determine the difference between "will need upgrade" as is the case for Cenex Harvest States Cooperative and "will need major upgrade" as is the case for Western Sugar Cooperative in terms of different treatment technologies/controls.

Thanks,

Lauren Praesel

Lauren Praesel | Senior Analyst | Abt Associates

O: 301.347.5732 | F: 301.828.9894 | www.abtassociates.com

Description: cid:image002.jpg@01CC31C3.012FDF00

From: Eloise Castillo
Sent: Thursday, August 18, 2011 5:47 PM
To: Erik Edgar; Lauren Praesel
Subject: FW: Private facilities review

From: Suplee, Mike [mailto:msuplee@mt.gov]
Sent: Thursday, August 18, 2011 5:45 PM
To: Blend, Jeff; Eloise Castillo; Laidlaw.Tina@epamail.epa.gov
Subject: Private facilities review

Hi;

I have completed my broad-brush assessment of the 11 facilities we selected for determining if they would be able to comply with the base numeric nutrient standards. I went over the results with Permitting as well.

At this stage, I have put the results in a table in the 'Summary' tab. It simply states whether an upgrade is likely or not.

Some additional details are found in the 'SupleeReview' tab. If further analysis is needed, or if you want me to go over it, please let me know.

Mike

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This was done to limit the distribution of computer viruses introduced into the EPA network. EPA is deleting all computer program attachments sent from the Internet into the agency via Email.

If the message sender is known and the attachment was legitimate, you should contact the sender and request that they rename the file name extension and resend the Email with the renamed attachment. After receiving the revised Email, containing the renamed attachment, you can rename the file extension to its correct name.

For further information, please contact the EPA Call Center at
(866) 411-4EPA (4372). The TDD number is (866) 489-4900.

********** ATTACHMENT NOT DELIVERED **********

STATION_	SAMPLE_	SAMPLE_T	PARAMET	PARAM_V	STATION_	REMARK_	UNIT_VAL	MONTH
Yellowston	8/13/1974	11:30	Total nitroç	0.47	06205200			8
Yellowston	8/21/1974	11:45	Total nitroç	0.41	06205200			8
Yellowston	8/14/1975	10:45	Total nitroç	0.16	06205200			8
Yellowston	8/26/1975	13:45	Total nitroç	0.24	06205200			8
Yellowston	8/10/1976	9:00	Total nitroç	0.26	06205200			8
Yellowston	8/24/1976	12:00	Total nitroç	0.37	06205200			8
Yellowston	8/11/1977	14:30	Total nitroç	0.37	06205200			8
Yellowston	8/24/1977	10:00	Total nitroç	0.03	06205200			8
Yellowston	8/9/1978	13:30	Total nitroç	0.39	06205200			8
Yellowston	8/23/1978	10:00	Total nitroç	0.41	06205200			8
Yellowston	8/2/1979	10:30	Total nitroç	0.33	06205200			8
Yellowston	8/21/1979	12:30	Total nitroç	0.44	06205200			8
Yellowston	8/28/2007	12:50	Nitrogen, r	0.233	Y06YELSR01		mg/l	8

STATION_NAME	SAMPLE_	SAMPLE_
Yellowstone River at Laurel MT	8/13/1974	11:30
Yellowstone River at Laurel MT	8/21/1974	11:45
Yellowstone River at Laurel MT	8/14/1975	10:45
Yellowstone River at Laurel MT	8/26/1975	13:45
Yellowstone River at Laurel MT	8/10/1976	9:00
Yellowstone River at Laurel MT	8/24/1976	12:00
Yellowstone River at Laurel MT	8/11/1977	14:30
Yellowstone River at Laurel MT	8/24/1977	10:00
Yellowstone River at Laurel MT	8/9/1978	13:30
Yellowstone River at Laurel MT	8/23/1978	10:00
Yellowstone River at Laurel MT	8/2/1979	10:30
Yellowstone River at Laurel MT	8/21/1979	12:30
Yellowstone River at Laurel MT	8/16/1977	9:05
Yellowstone River at Laurel MT	8/12/1977	0:00
Yellowstone River at Laurel MT	8/25/1977	0:00
Yellowstone River at Laurel MT	8/3/1976	10:15
Yellowstone River at Laurel MT	8/3/1976	10:16
Yellowstone River at Laurel MT	8/15/1975	9:45
Yellowstone River at Laurel MT	8/21/2003	11:15
Yellowstone River at Laurel MT	8/28/2007	12:50
Yellowstone River at Laurel MT	8/28/2007	12:50

PARAMETER	PARAM_V	STATION_	REMARK_	UNIT_VAL
Phosphorus, water, unfiltered, milligrams per liter	0.060	06205200		
Phosphorus, water, unfiltered, milligrams per liter	0.030	06205200		
Phosphorus, water, unfiltered, milligrams per liter	0.010	06205200	<	
Phosphorus, water, unfiltered, milligrams per liter	0.040	06205200		
Phosphorus, water, unfiltered, milligrams per liter	0.030	06205200		
Phosphorus, water, unfiltered, milligrams per liter	0.010	06205200		
Phosphorus, water, unfiltered, milligrams per liter	0.020	06205200		
Phosphorus, water, unfiltered, milligrams per liter	0.030	06205200		
Phosphorus, water, unfiltered, milligrams per liter	0.010	06205200	<	
Phosphorus, water, unfiltered, milligrams per liter	0.020	06205200		
Phosphorus, water, unfiltered, milligrams per liter	0.010	06205200		
Phosphorus, water, unfiltered, milligrams per liter	0.020	06205200		
Phosphorus as P	0.00	2659YE03		mg/l
Phosphorus as P	0.02	2659YE01		mg/l
Phosphorus as P	0.01	2659YE01		mg/l
Phosphorus as P	1.20	2659YE01		mg/l
Phosphorus as P	0.27	2659YE01		mg/l
Phosphorus as P	0.02	2659YE01		mg/l
Phosphorus as P	0.013	Y06YSR400		mg/l
Phosphorus as P	0.0165	Y06YELSR01		mg/l
Phosphorus as P	0.00595	Y06YELSR01		mg/l

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STATION_SA	MPLE_D	SAMPLE_T	PARAMETER	PARAM_V	STATION_	REMARK_	UNIT_VAL	MONTH
Yellowston	8/9/1968	9:30:00	Total nitrogen, \	0.28	06214500			8
Yellowston	8/5/1969	10:45:00	Total nitrogen, \	0.59	06214500			8
Yellowston	8/3/1970	13:30:00	Total nitrogen, \	0.28	06214500			8
Yellowston	8/13/1975	9:15:00	Total nitrogen, \	0.16	06214500			8
Yellowston	8/12/1976	9:30:00	Total nitrogen, \	0.21	06214500			8
Yellowston	8/9/1977	10:00:00	Total nitrogen, \	0.40	06214500			8
Yellowston	8/1/1978	11:00:00	Total nitrogen, \	0.29	06214500			8
Yellowston	8/26/1980	10:45:00	Total nitrogen, \	0.69	06214500			8
Yellowston	8/27/1981	14:30:00	Total nitrogen, \	0.65	06214500			8
Yellowston	8/18/1992	8:50:00	Total nitrogen, \	0.32	06214500			8
Yellowston	8/13/1999	10:30:00	Total nitrogen, \	0.46	06214500			8
Yellowston	8/22/2001	16:15:00	Total nitrogen, \	0.32	06214500			8

STATION_NAME	SAMPLE_	SAMPLE_
Yellowstone River at Billings MT	8/3/1970	13:30:00
Yellowstone River at Billings MT	8/13/1975	9:15:00
Yellowstone River at Billings MT	8/12/1976	9:30:00
Yellowstone River at Billings MT	8/9/1977	10:00:00
Yellowstone River at Billings MT	8/1/1978	11:00:00
Yellowstone River at Billings MT	8/26/1980	10:45:00
Yellowstone River at Billings MT	8/27/1981	14:30:00
Yellowstone River at Billings MT	8/9/1982	15:00:00
Yellowstone River at Billings MT	8/10/1983	12:30:00
Yellowstone River at Billings MT	8/18/1992	8:50:00
Yellowstone River at Billings MT	8/13/1999	10:30:00
Yellowstone River at Billings MT	8/14/2000	12:30:00
Yellowstone River at Billings MT	8/22/2001	16:15:00
Yellowstone River at Billings MT	8/22/2003	13:00:00
Yellowstone River at Billings MT	8/22/2003	14:15:00
Yellowstone River at Billings MT	8/22/2003	0:00:00

PARAMETER	PARAM_VALUE	STATION_	REMARK_	UNIT_VAL
Phosphorus, water, unfiltered, milligrams per liter	0.040	06214500		
Phosphorus, water, unfiltered, milligrams per liter	0.010	06214500	<	
Phosphorus, water, unfiltered, milligrams per liter	0.040	06214500		
Phosphorus, water, unfiltered, milligrams per liter	0.030	06214500		
Phosphorus, water, unfiltered, milligrams per liter	0.060	06214500		
Phosphorus, water, unfiltered, milligrams per liter	0.040	06214500		
Phosphorus, water, unfiltered, milligrams per liter	0.010	06214500	<	
Phosphorus, water, unfiltered, milligrams per liter	0.050	06214500		
Phosphorus, water, unfiltered, milligrams per liter	0.060	06214500		
Phosphorus, water, unfiltered, milligrams per liter	0.01	06214500		KJ010
Phosphorus, water, unfiltered, milligrams per liter	0.081	06214500		CL021
Phosphorus, water, unfiltered, milligrams per liter	0.028	06214500		CL021
Phosphorus, water, unfiltered, milligrams per liter	0.025	06214500		CL021
Phosphorus as P	0.021	Y06YSR470		mg/l
Phosphorus as P	0.019	Y06YSR520		mg/l
Phosphorus as P	0.020	Y12YSR550		mg/l

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